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09/903,174	07/11/2001	Motoi Tariki	1232-4735	9369

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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

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DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

KS

Office Action Summary

Application No.

09/903,174

Applicant(s)

TARIKI, MOTOI

Examiner

Nhan T. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. Figures 8 & 9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 19 & 20 are objected to because of the following reasons:

Claim 19 recites the limitation "said storage area" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 20 recites the limitation "said storage area" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claim 36 recites the limitation "the storage area" in the last two lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 4, 6 – 12, 13 – 15, 17 – 26 & 28 – 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Sakai et al (US 5,943,094).

Regarding claim 13, Sakai discloses an information processing apparatus (Figs. 1-3) which processes information provided by an image sensing apparatus, comprising:

a storage unit (8, 81, 82) adapted to store a first signal (noise or dark signal) generated by an image sensor (3), wherein the first signal is a signal for correcting a second signal (object image signal) generated when the image sensor photographs an object (see Fig. 2; col. 5, lines 11-49 which is a modified embodiment from Fig. 1; col. 4, lines 17-45. It is noted that the storage unit is considered as a system memory of the camera including memory portions 8, 81 & 82);

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a control unit (10) adapted to give priority to designation of photographing of an object image over an operation of writing the first signal generated by the image sensor into the storage unit (col. 5, lines 16-20, wherein a subject image is taken and stored in the memory before taking and storing the noise signal into the memory).

Regarding claim 14, the storage unit stores a signal (noise signal) contained in at least two frames (i.e., a noise frame and a noise + image frame; generally, noise is contained in all frames), which is generated by the image sensor (see the analysis of claim 13).

Regarding claim 15, Sakai discloses that the image sensing comprises a shutter (2) on a optical path for guiding light to the image sensor, the first signal (noise signal) is generated by the image sensor when the shutter is closed, and the second signal (object image signal) is generated by the image sensor when the shutter is opened (see the analysis of claim 13).

Regarding claim 17, Sakai also discloses that control unit controls an operation of storing the first signal into the storage unit at a predetermined time interval (see col. 5, lines 16-31).

Regarding claim 18, Sakai further discloses a correction unit to correct the second signal, generated when the image sensor photographs an object, by using the first signal (see col. 5, lines 11-49).

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Regarding claim 19, the control unit stores the second signal photographed by the image sensor into the storage unit in continuous photographing (see col. 6, lines 10-15).

Regarding claim 20, the claimed limitations are analyzed with respect to claim 19.

Regarding claim 21, the claimed limitations are analyzed with respect to claim 13.

Regarding claim 22, Sakai shows that the control unit has a function of controlling the time of storage of electric charge to the image sensor during which a dark current noise component is acquired (see col. 4, lines 29-30 & col. 5, lines 16-19).

Regarding claim 23, Sakai also shows that the control unit corrects the second signal in connection with the time of storage of electric charge to the image sensor (predetermined time in each cycle) during which a dark current noise component is acquired (see col. 5, lines 26-43).

Regarding claim 24, the claimed limitations are analyzed with respect to claim 13 with an addition of an acquisition unit (4-9, 81-82) adapted to acquire a signal generated by an image sensor (see Figs. 1 – 3).

Regarding claim 25, the claimed limitations are analyzed with respect to claim 14.

Regarding claim 26, the claimed limitations are analyzed with respect to claim 15.

Regarding claim 28, the claimed limitations are analyzed with respect to claim 17.

Regarding claim 29, the claimed limitations are analyzed with respect to claim 18.

Regarding claim 30, the claimed limitations are analyzed with respect to claim 19.

Regarding claim 31, the claimed limitations are analyzed with respect to claim 20.

Regarding claim 32, the claimed limitations are analyzed with respect to claim 21.

Regarding claim 33, the claimed limitations are analyzed with respect to claim 22.

Regarding claim 34, the claimed limitations are analyzed with respect to claim 23.

Regarding claim 35, the claimed limitations are analyzed with respect to claims 13 & 14.

Regarding claim 36, the claimed limitations are analyzed with respect to claim 13.

Regarding claim 37, the claimed limitations are analyzed with respect to claim 24.

Regarding claim 1, the claimed limitations are analyzed with respect to claims 13 & 14.

Regarding claim 3, Sakai discloses that whenever writing a signal of one frame generated by the image sensor into the storage area, the controller switches storage areas into which the signal is to be written (see the switch SW-1 shown in Figs. 1-3 & col. 4, lines 23-28).

Regarding claim 4, the claimed limitations are analyzed with respect to claim 15.

Regarding claim 6, the claimed limitations are analyzed with respect to claim 17.

Regarding claim 7, the claimed limitations are analyzed with respect to claim 18.

Regarding claim 8, the claimed limitations are analyzed with respect to claim 19.

Regarding claim 9, the claimed limitations are analyzed with respect to claim 20.

Regarding claim 10, the claimed limitations are analyzed with respect to claim 21.

Regarding claim 11, the claimed limitations are analyzed with respect to claim 22.

Regarding claim 12, the claimed limitations are analyzed with respect to claim 23.

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5. Claims 1, 2, 5, 13 – 16, 24 – 25, 27 & 35 – 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Horii (US 6,046,771).

Regarding claim 13, Horii discloses an information processing apparatus which processes information provided by an image sensing apparatus (Figs. 1 & 2), comprising:

a storage unit (16) adapted to store a first signal generated by an image sensor, wherein the first signal is a signal for correcting a second signal generated when the image sensor photographs an object (see Figs. 1 & 2; col. 3, lines 16-23);

a control unit adapted to give priority to designation of photographing of an object image over an operation of writing the first signal generated by the image sensor into the storage unit (see Fig. 2; col. 4, lines 19-21, wherein the dark current noise extracting mode is optional, implying that designation of photographing of an object image has a higher priority over the dark current noise extracting mode).

Regarding claim 14, the storage unit stores a signal (noise signal) contained in at least two frames, which is generated by the image sensor (col. 3, lines 16-19, wherein noise signal is contained in all frames which are generated by the image sensor 10).

Regarding claim 15, Horii discloses that the image sensing apparatus comprises a shutter (2) on an optical path for guiding light to the image sensor (10), the first signal is generated by the image sensor when the shutter is kept closed (S104), and the second signal is generated by the image sensor when the shutter is opened (S108) (see Figs. 1 & 2).

Regarding claim 16, Horii discloses the control unit controlling an operation of storing the first signal into the storage unit at a predetermined time interval in photographing preparation state (e.g., dark current noise extracting mode is executed in a preparation state before taking an object image as shown in Fig. 2; col. 4, lines 21-53).

Regarding claim 24, the claimed limitations are analyzed with respect to claim 13 with an addition of an acquisition unit (13-14, 16, 20) adapted to acquire a signal generated by an image sensor (see Fig. 1).

Regarding claim 25, the claimed limitations are analyzed with respect to claim 14.

Regarding claim 27, the claimed limitations are analyzed with respect to claim 16.

Regarding claim 35, the claimed limitations are analyzed with respect to claims 13 & 14.

Regarding claim 36, the claimed limitations are analyzed with respect to claim 13.

Regarding claim 37, the claimed limitations are analyzed with respect to claim 24.

Regarding claim 38, the claimed limitations are analyzed with respect to claims 13 & 14 (see Fig. 2 for the flowchart of the control program).

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Regarding claim 39, the claimed limitations are analyzed with respect to claims 13 & 38.

Regarding claim 40, the claimed limitations are analyzed with respect to claims 24 & 38.

Regarding claim 1, the claimed limitations are analyzed with respect to claims 13 & 14.

Regarding claim 2, Horii discloses that if an operation of writing a signal generated by the image sensor into the storage area is being executed when photographing of an object image is designated (outputted from one memory to other unit), the controller makes photographing of the object image possible against the writing operation (see col. 1, lines 54-57, wherein the photographing of the object image is made possible by outputting the object image stored in the memory to another unit, i.e., D/A, encoder, video out).

Regarding claim 5, the claimed limitations are analyzed with respect to claim 16.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 38 – 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al (US 5,943,094).

Regarding claims 38 – 40, Sakai discloses the operation of the camera having all the functions required by claims 38 – 40 as analyzed in claims 1, 13 & 24, and Sakai further teaches that the non-volatile memory (e.g., EEPROM) is used for storing “other data” and the contents of this memory being read written under the control by a microcontroller (see Fig. 4; col. 6, lines 44-49) but Sakai does not clearly disclose the “other data” representing control program of the camera. However, an Official Notice is taken that the control program of the camera is notoriously well known as being stored in such a non-volatile memory (i.e., firmware) to be executed by the microcontroller so that the camera operations are performed properly as analyzed in claims 1, 13 & 24.

Therefore, it would have been obvious to one of ordinary skill in the art to recognize that the control program would have been stored in a certain memory of the camera for performing operational functions as analyzed in claims 1, 13 & 24.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

NT.

A handwritten signature in black ink, appearing to read 'Andrew Christensen', with a long horizontal flourish extending to the right.

**ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**